

# Chapter 7 – Review Questions

Read Chapter 7 and answer the following questions on a separate sheet of paper.

**ANSWERS MUST BE HANDWRITTEN! Typed responses will not be accepted.**

1. Describe the ecological and economic importance of the American alligator. Why is it characterized as a *keystone species*?
2. List four characteristics of the structure of a community or ecosystem. Distinguish among *species diversity*, *species richness*, and *species evenness*.
3. What are the four species-rich environments? How does increasing species richness generally affect species evenness?
4. What two factors determine the species diversity found on an isolated ecosystem such as an island? What is the *theory of island biogeography*? How do the size of an island and its distance from a mainland affect its species diversity?
5. Distinguish among *native*, *nonnative*, *indicator*, and *keystone species*, and give an example of each.
6. Why are birds good indicator species? Explain why amphibians are considered indicator species and list reasons for the current declines in many of their populations.
7. Describe the keystone ecological roles of bees, alligators, and some shark species. What can happen in an ecosystem that loses a keystone species?
8. Define and give an example of a *foundation species*.
9. What is *interspecific competition*? What are four possible consequences when the niches of two species competing in the same area overlap to a large degree?
10. Define and give two examples of *resource partitioning*. How does it allow species to avoid overlap of their fundamental niches?
11. What is *predation*? Describe the *predator-prey relationship*, and give two examples of this type of species interaction. Why are sharks important species?
12. Give two examples of how predators increase their chances of finding prey by pursuit and then give two examples of how they do the same thing by ambush.
13. List six ways (adaptations) used by prey to avoid their predators, and give an example of each type.
14. Define and give two examples of *parasitism*, and explain how it differs from predation. What is the ecological importance of parasitism?
15. Define and give two examples of each for *mutualism* and *commensalism*.
16. Distinguish between *primary succession* and *secondary succession*. Distinguish among pioneer (or early successional) species, midsuccessional plant species, and late successional plant species.
17. Give three examples of environmental disturbances, and explain how they can affect succession. How can some disturbances be beneficial to ecosystems? What is the *intermediate disturbance hypothesis*?
18. Describe the view of succession that has replaced the equilibrium, or balance-of-nature view that once was dominant in the field of ecology.
19. Distinguish among *inertia*, *constancy*, and *resilience*, and explain how they help maintain stability in an ecosystem.
20. Does high species diversity always increase ecosystem stability? Explain.
21. Why do ecologists argue for using extreme caution in making decisions about whether to disturb communities and ecosystems?